DUO

Presence sensor
(light and motion sensor)
Operating instructions

Description

Purpose and application

The DUO sensor detects the presence of persons and measures the intensity of ambient light.

The sensor is designed for installation on ceilings or in luminaires using a T5/T8 holding clip and is ideal for the expansion of existing electrical installations.

The following application types are available, depending on how the sensor is connected (see the connection diagram in the fitting instructions):

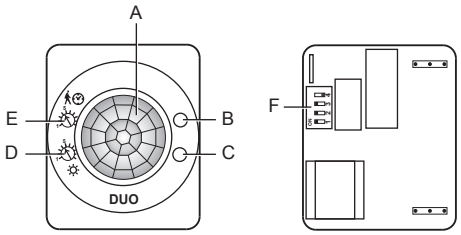
- Alternative 1: One sensor switches a load area by means of light and/or motion detection.
- Alternative 2: One sensor switches a load area by means of light and/or motion detection. Additional motion detection sensors are used to expand the detection area (slave mode).

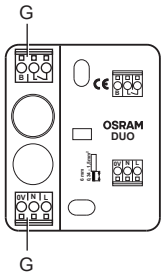
Function

The sensor operates fully automatically and the values detected by the sensor (motion, light value) control the switching behaviour on the basis of the parameters set by the user. The measured light value depends on the incidence of daylight, the artificial lighting and the properties of the surface (light/dark).

The following parameters can be set:

- Switch-off delay time (if no motion is detected)
- Light value
- Function mode





Design

The sensor is made up of the following components:

Upper section of housing:

- Motion sensor (A)
- LED (B)
- Light sensor (C)
- Adjusting screws:
  - Setpoint for brightness (D)
  - Switch-off delay time (E)
- DIP switch on the back (F)

Lower section of housing:

- Connections (G):
  - L, N: Supply lines
  - Switch contact
  - Parallel circuit for joint motion detection

LED display

The LED (B) indicates the operating state of the sensor.

LED	Operating state
Green	Switch contact OFF (sufficient daylight)
Orange	Switch contact ON (artificial lighting required)
Flashes slowly (green/orange)	Motion detected (orange = normal mode; green = slave mode)
Flashes rapidly (orange)	Setpoint for brightness was exceeded. Reduce the setpoint and check the light conditions at the installation location.
Off	Slave mode (see the connection diagram in the fitting instructions)

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Operation

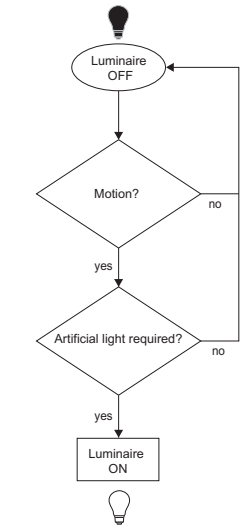
Symbols

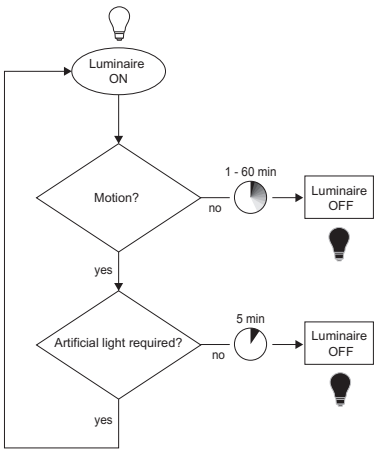
Luminaire on

Luminaire off

Automatic control principle

Precondition: Motion detection and brightness control are activated.





After the mains voltage is applied and the mains voltage returns, the lighting is switched on.

Function of the DIP switches

Function		DIP switch (F)		
Motion detection	Activated	1	ON	
	Deactivated	1	OFF	
Brightness control	Activated	2	ON	
	Deactivated	2	OFF	
Switch-offsignaling	Activated	3	ON	
	Deactivated	3	OFF	

DIP switch 4 has no function (only used for production purposes)

Default setting (state at delivery):
DIP switches 1+2 are activated, DIP switch 3 is deactivated

Operation (cont.)

Activating motion detection and brightness control

Motion detection and brightness control can be activated individually or jointly.

Motion detection

To activate: DIP switch 1 = ON

To deactivate: DIP switch 1 = OFF

Brightness control

To activate: DIP switch 2 = ON

To deactivate: DIP switch 2 = OFF

Note:
When DIP switches 1 and 2 are set to OFF, the sensor is in slave mode (expansion of the motion detection area); see the connection diagram in the fitting instructions.

Activating switch-off signaling

Precondition: Motion detection is activated (DIP switch 1 = ON).

The switch-off is signaled by a brief flash of the lighting 30 s before the switch-off delay time expires if no motion is detected.

To activate: DIP switch 3 = ON

To deactivate: DIP switch 3 = OFF

Specifying set value for brightness control

Note:

- Make the setting while there is a low incidence of daylight.
- Do not cover the sensor while making the setting.
- When checking the function, keep an adequate distance to the sensor to avoid altering the luminance measurement.
- While the setpoint is being changed, the switch-off delay time is set to 10 seconds for one minute if there is too much light.

Turn the adjusting screw (D) on the sensor to the required setting:

- Default setting: Position 10 = automatic mode
- Position 1 – 9:
  30, 60, 100, 150, 200, 250, 300, 400, 500 lux
- Position 10 (all the way to the right):
  Automatic mode. The sensor independently defines the switch-on and switch-off thresholds based on the measured values.

Adjusting the switch-off delay time

Switch-off delay time if no motion is detected.

Turn the adjusting screw (E) on the sensor to the required setting:

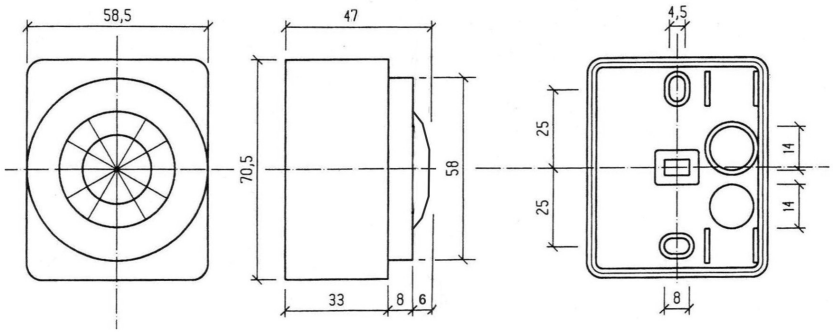
- Default setting: Position 5 = 10 minutes delay time
- Position 1 (all the way to the left): Test mode for checking the function. Switch-off delay times (no motion or sufficient daylight) are reduced to 10 s.
- Position 2 – 9:
  1, 3, 5, 10, 15, 20, 30, 45, 60 minutes

Appendix

Technical data

Operating voltage	220-240 V/50-60 Hz (no DC operation)
Fuse	External 6 A (10 A)
Power consumption	Switched on: Approx. 1 W Switched off: Approx. 0.7 W
Maximum total line length	100 m
Switch output	Floating contact (internal relay, make contact)
Switch output load capacity	Resistive load: 10 A/250 V AC, 6 A/30 V DC Ohmic lamp load: 5 A Inductive load: 5 A 30 x single-lamp ECG 18 W 20 x two-lamp ECG 18 W 30 x single-lamp ECG 36 W 20 x two-lamp ECG 36 W 20 x single-lamp ECG 58 W 10 x two-lamp ECG 58 W
Detection area	Max. Ø 12 m
Installation height	Max. 5 m (ideal: 2.5 - 3 m)
Switching hysteresis	Approx. 15%
Operating temperature	0 °C ... +50 °C
Protection class	II
Protection type	IP 20
Weight	Approx. 150 g
Dimensions (L x W x H)	58.5 x 70.5 x 47 mm

Dimensioned drawing



Conformity with the relevant EU directives is confirmed by the CE symbol.